### EtherChannel and STP

**Objectives**

- Configure and wire up a port-channel (Etherchannel)
- Tweak STP to favor one VLAN on one leg over another
- Set your switch to use Rapid PVST before you proceed

**EtherChannel**

- Wire up two NEW ethernet cables to the uplink switch documented on the equipment page.
- Make sure and keep it clean when wiring!!
- Use the ports designated on the equipment page.
- Configure your EtherChannel on these two ports using LACP.
- Trunk the same VLANs as you have on the original uplink, across this new EtherChannel.
- You will NOT be using the NATIVE vlan on this EtherChannel, everything is trunked like normal.
- Make sure it is synced up and working (`show etherchannel <id> detail`)

**STP Config**

- Configure your Switch for rapid per-vlan STP
- Force the STP Cost of one of your VM VLANs across the new EtherChannel and the other VM VLAN to come across the single-cable uplink. (you might have to modify the cost of the VLANs on BOTH ports)
- Do the same with your Uplink (VLAN 1XX) VLAN (make sure it traverses the PortChannel link instead of F1/0/X link)
- Set your ports going to your routers to portfast ports. If the port is a trunk, set it to `portfast trunk`
- Forcefully make your 3750 the `root primary` for your TWO 2800-only VLANs (these are the two 3750 to 2800 VLANs you run OSPF on, NOT the VM VLANs)

**Verification**

- Copy the output from `show etherchannel <number> summary` for verification uploading
- Grab a copy of `show spanning-tree interface FaX/y` for your OLD single cable uplink port (root for ONE VM should be using this port)
- Do the same for your EtherChannel port to compare against it (your Uplink and ONE VM VLAN should be connecting to root from here).
- Then, shut down your OLD uplink port and wait for STP to adjust (you should still be able to get out if you set it up right)
- Get the same `show spanning-tree int <ether_channel>` output from above, showing the changes.
- `no shut` your OLD uplink port so things flow back the way they were.
- `shutdown` your NEW Etherchannel port
- Grab another `show spanning-tree int FaX/y` of your OLD uplink port once STP has adjusted to show the changes.
- Bring the NEW Etherchannel back up.

**To pass off**

- Upload the verification steps from above to Canvas by the due-date and time listed in Canvas
- Also upload a copy of your show-run from each of your devices, each in its own text file